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Chapter 226

STATE OF MAINE

CROSS CONNECTION RULES

DEPARTMENT OF HUMAN SERVICES

DIVISION OF HEALTH ENGINEERING

10 STATE HOUSE STATION

AUGUSTA, MAINE 04333

EFFECTIVE DATE

These rules are effective **July 10, 2001**

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Department of Human Services
Bureau of Health
Drinking Water Program

STATE OF MAINE

CROSS CONNECTION RULES

SUMMARY STATEMENT

These rules are designed to regulate, control, and prevent the contamination of drinking water by the backflow of water or other liquids, mixtures or substances into the distribution pipes of a water supply system from a source or sources other than its intended source.

BASIS STATEMENT

Since it is the responsibility of a public water supply to provide water, which is safe to consume, and since active, unprotected, or inadequately protected cross-connections provide a real and present threat to the safety of the water being consumed, these rules are promulgated.

AUTHORITY

These rules are authorized under 22 M.R.S.A. Chapter 601, Subchapter II § 2612(5).

Non-Discrimination Notice

In accordance with Title VI of the Civil Rights Act of 1964, as amended by The Civil Rights Restoration Act of 1991 (42 U.S.C. 1981, 2000e et seq.) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), The Age Discrimination Act of 1975, as amended (42 U.S.C. 6101 et seq.), Title II of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.), and Title IX of the Education Amendments of 1972, the Maine Department of Human Services does not discriminate on the basis of sex, color, national origin, disability or age in admission or access to or treatment or employment in its programs and activities.

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1. GENERAL PROVISIONS

1.1 Application and Scope

A. The provisions of these rules shall apply to all public water systems, with a population of greater than 1,000 or with an industrial account.

1.2 Constitutionality

A. Should any section, paragraph, sentence, clause, or phrase of these Rule be declared unconstitutional or invalid for any reason, such decision shall not affect the validity of the remaining portion of these rules.

2. DEFINITIONS

A. Air-gap Separation – A physical separation between the free flowing discharge end of a potable water supply pipeline and an open or non-pressure receiving vessel. An air-gap separation shall be at least twice the diameter of the supply pipe measured vertically above the overflow rim of the vessel – in no case less than one inch (2.54 cm).

B. Anti-backflow Device - A device or means to prevent backflow.

C. Approved Source - A source of water utilized by a public water system for distribution to the public for consumptive purposes and which is approved by the Department for such use following a required and/or approved treatment process.

D. Backflow Preventer - An anti-backflow device.

E. Backflow - The undesirable reversal of the flow of water or mixtures of water and other liquids, gases or other substances into the distribution pipes of a potable water supply from any source or sources other than the public water system's approved source.

F. Backflow Preventer, Reduced Pressure Principle Type - An assembly of differential valves and check valves including an automatically opened spillage port to the atmosphere.

G. Back-siphonage - Backflow resulting from negative pressures in the distribution pipes of a potable water supply.

H. Contaminant – Any chemical, biological, or radiological substance or matter which is an impairment of the water quality of the water which creates an actual hazard to the public health through poisoning or through the spread of disease by sewage, industrial fluids or waste.

I. Cross-connection - Any physical connection, or structural arrangement between two otherwise separate systems, one of which contains potable water and the other which contains water of unknown or questionable safety and/or steam, chemicals, gases or other contaminants and/or pollutants, whereby there may be a flow of an unapproved water to a potable water supply.

J. Department - Maine Department of Human Services.

K. Industrial Fluids – Shall mean any fluid or solution which may be chemically, biologically or otherwise contaminated or polluted in a form or concentration such as would constitute a health, system, pollutional or plumbing hazard if introduced into an approved water supply. This may include, but is not limited to: polluted or contaminated used waters; all types of process waters and “used waters” originating from public potable water system which may deteriorate in sanitary quality; chemicals in fluid form; plating acids and alkalies; circulated cooling waters connected to an open cooling tower and/or cooling waters that are chemically or biologically treated or stabilized with toxic substances; contaminated natural waters such as from wells, springs, streams, rivers, bays, harbors, seas, irrigation canals or systems, etc.; oils, gases, glycerine, paraffines, caustic and acid solutions and other liquid and gaseous fluids used in industrial or other processes or for fire fighting purposes.

L. Owner - Any person who has legal title to, or license to operate or inhabit, a property upon which a cross-connection inspection is to be made or upon which a cross-connection is present.

M. Person - Any individual, partnership, company, public or private corporation, political subdivision or agency of the state, Department, agency or instrumentality of the United States or any other legal entity.

N. Political subdivision - Any municipality, county, district or any portion or combination of two or more thereof.

O. Pollutant - A foreign substance that impairs the quality of the water to a degree which does not create a hazard to the public health but which does adversely and unreasonably affect the aesthetic quality of such water for domestic use.

P. Potable Water - An approved water source, free from impurities present in any amount sufficient to cause disease or harmful physiological effects. An approved water source physical, bacteriological, chemical and radiological quality must conform with the requirements of the Maine State Rules Relating to Drinking Water.

Q. Public Water System –Is hereby incorporated by reference as defined in Chapter 22 M.R.S.A. § 2601 and 10-144 CMR 231 Section 2 in the State of Maine Rules Relating to Drinking Water.

R. Startup Date – The date a public water system starts providing water to its customers.

S. Supplier - Any person who controls, owns or generally manages a public water system.

T. System - Public Water System.

3. ADMINISTRATION

A. The supplier shall not allow a cross-connection at any point within its system unless approved pursuant to an application submitted to the Department for the cross-connection.

B. The owner shall be responsible for ensuring the proper operation and maintenance of an anti-backflow device and the periodic regular testing of the device.

C. The supplier shall be responsible for the administration of its cross-connection control program and ensuring that the periodic testing of anti-backflow devices are performed.

4. CROSS CONNECTION CONTROL PROGRAMS

A. All suppliers serving a population of more than one thousand (1,000) people shall submit a written cross-connection control program to the Department within sixty (60) days of the date the system is established or the population served increased. The cross-connection control program shall be implemented and in effect within a period not to exceed nine (9) months after approval by the Department.

B. Any supplier serving a population of less than one thousand (1,000) people but which has an industrial account shall submit a written cross-connection control program to the Department within sixty days (60) of the date the industrial account becomes active. The cross-connection control program shall be implemented and in effect within a period not to exceed nine (9) months after approval by the Department.

C. All new suppliers required to have a cross-connection control program shall submit a written cross-connection control program to the Department for approval, within sixty days (60) of the startup date. The cross-connection control program shall be implemented and in effect within a period not to exceed nine (9) months after approval by the Department.

D. The Department specifically reserves the right to inspect all cross-connections. The supplier shall be administratively responsible for the corrections necessary as a result of a Departmental inspection. The owner and/or supplier shall comply with any Departmental or supplier's orders issued as a result of said inspections of the water system.

5. DEGREE OF HAZARD

A. For the purpose of these rules the following classifications of Degree of Hazard and associated definitions shall apply:

5.1 Class I - Low degree of hazard

If a backflow were to occur, the resulting health significance would be limited to minor changes in the aesthetic quality such as taste, odor or color. The foreign substance must be non-toxic and non-bacterial in nature with no significant health effect.

5.2 Class II - Moderate degree of hazard

If a backflow were to occur, the resulting effect on the water supply would result in significant (detectable) changes in aesthetic qualities. The foreign substance (pollutant) must be non-toxic, (non-harmful) to humans.

5.3 Class III - High degree of hazard

If a backflow were to occur, the resulting effect on the water supply could cause illness or death if consumed by humans. The foreign substance (contaminant) may be toxic and/or harmful to humans either from a chemical, bacteriological or radiological standpoint. The effects of the contaminants may result from short or long-term exposure.

6. APPROVED ANTI-BACKFLOW DEVICES

A. Only the following types of anti-backflow devices may be used in a permitted cross-connection:

Degree of Hazard	Allowed Devices
6.1 Class I	Air-Gap Separation Atmospheric Type Vacuum Breaker Pressure Type Vacuum Breaker Double Check Valve Assembly Reduced Pressure Principal Device
6.2 Class II	Air-Gap Separation Pressure Type Vacuum Breaker Double Check Valve Assembly Reduced Pressure Principal Device
6.3 Class III	Air-Gap Separation Reduced Pressure Principal Device

7. PERMITS

A. The supplier shall not allow a cross-connections within the public water supply system unless deemed necessary by the supplier.

B. All cross-connection permits applications shall be submitted to and reviewed by the Department.

C. Records of cross-connection control devices shall be kept on file with the supplier for a minimum of five (5) years from the date of issuance, and shall be available for inspection by Department staff.

D. It shall be the supplier's responsibility to review the degree of hazard of the cross-connection, assign the proper classification to a specific cross-connection and designate the proper classification on the specific cross-connection permit application.

E. The owner shall apply for a cross-connection permit on appropriate forms and submit said application in triplicate to the supplier.

F. The supplier shall forward the permit application to the Department along with the degree of hazard classification, in addition to recommendations as to whether or not the permit shall be issued. Permits shall be renewed every five (5) years. Requests for permit renewal shall be

reviewed by the supplier, and if no changes have occurred the permit shall be automatically renewed. If changes have occurred during any permit period, the renewal application shall be reviewed for a modification to the degree of hazard determination.

G. Permits shall be non-transferable.

8. EXEMPTIONS

A. Any existing backflow preventer shall be allowed to continue in service unless:

1. The supplier and/or Department considers the condition of any portion of the device to be such that replacement should be made, or
2. The degree of hazard is changed.

B. Specific exemptions from these rules are permitted. Specific conditions and devices exempted are found in Appendix A.

C. The Commissioner may grant one or more exemptions from this rule to a public water system or owner, if

1. The exemption will not result in an unreasonable risk to the public health; and/or
2. The public water system or owner is unable to comply with the regulation due to compelling factors, not including economic factors.

D. An exemption shall not alter the degree of hazard classification of the cross-connection and shall not exclude the use of some appropriate anti-backflow device not necessarily assigned to the particular degree of hazard assigned to the cross-connection. Prior to granting an exemption, the Commissioner shall provide notice in a local newspaper and give an opportunity for public hearing on the proposed exemption. Each exemption may also be conditioned on monitoring, testing, analyzing or other requirements to ensure the protection of the public health, and shall include a compliance schedule.

9. RESPONSIBILITY

A. It shall be the responsibility of the supplier and owner to ensure that no unprotected cross-connection is present. If the supplier has reasonably ordered an owner to protect its water supply from a potential cross-connection and the owner does not do so, the supplier shall be required to discontinue service to the owner within a period of time specified in the water supplier's Cross-Connection Control Program. Notice shall be given to the Department and to the Maine Public Utilities Commission.

C. All owners maintaining cross-connections between their private system and the supplier's water system shall eliminate and disconnect such cross-connections unless deemed necessary by the water supplier and the Department, and protected by a backflow preventer approved by the Department and permitted for the degree of hazard associated with the cross-connection. Such disconnection shall occur within six months of the effective date of the cross-connection control program.

D. It shall be the responsibility of the owner to inform the supplier of any new, existing, proposed or modified cross-connection.

E. It shall be the responsibility of the owner to provide access during normal working hours to the premises for any representative of the supplier or to any representative of the Department or any other state or federal agency authorized to do so for the expressed purpose of inspecting for possible cross-connections or gaining information in the preparation of a permit. This shall include providing copies of any plans, drawings, reports or specifications relating to the water system or proposed cross-connection control devices.

F. It shall be the responsibility of the owner to comply with all provisions of any permit and the supplier's Cross-Connection Control Program.

APPENDIX A

EXEMPTED DEVICES AND SITUATIONS

1. Water closets fitted with anti-siphon ball-cocks and installed in accordance with § 1003b of the Maine State Plumbing Code shall be permitted without further protection.
2. Urinal and water closet flushometer valves fitted with approved vacuum breakers and installed in accordance with § 1003(a)(c) of the Maine State Plumbing Code shall be permitted without further protection.
3. Irrigation systems with “Pop-up” sprinklers shall be allowed if protected by a double-check valve assembly with an intermediate atmospheric vent
4. Irrigation systems with heads permanently elevated at least twelve (12) inches above the surrounding ground level elevation shall be protected by a double-check valve assembly with an intermediate atmospheric vent installed.
5. Boilers in non-industrial application and not containing toxic chemicals may be fitted with approved double-check valve assemblies with intermediate atmospheric vents